LISTING OF THE CLAIMS

1. (Currently amended) A ~~modified glycosaminoglycan, wherein the modified glycosaminoglycan comprises a~~ modified glycosaminoglycan comprising a glycosaminoglycan in which at least one hydroxyl group present in the molecular structure of the glycosaminoglycan has been chemically ~~substituted with~~ modified so that oxygen atom of the hydroxyl group is covalently bound to a hydrazide-reactive group or an aminooxy-reactive group instead of a hydrogen atom.

2. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 1, wherein the glycosaminoglycan comprises chondroitin, chondroitin sulfate, dermatan, dermatan sulfate, heparin, or heparan sulfate.

3. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 1, wherein the glycosaminoglycan comprises hyaluronan.

4. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 3, wherein the at least one hydroxyl group is a primary C-6 hydroxyl group ~~of a~~ contained within an N-acetyl-glucosamine residue present in the molecular structure of the hyaluronan ~~is substituted with the hydrazide-reactive group or the aminooxy-reactive group~~.

5. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 4, wherein at least one secondary hydroxyl group ~~is substituted with~~ present in the molecular structure of the hyaluronan has also been modified so that the oxygen atom of the secondary hydroxyl group is covalently bound to the hydrazide-reactive group or the aminooxy-reactive group.

6. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 4, wherein ~~from one primary C-6 hydroxyl group of the N-acetyl-glucosamine residue~~ up to 100 % of the primary C-6 hydroxyl groups of the N-acetyl-glucosamine ~~residue are~~

~~substituted~~ residues in the glycosaminoglycan structure are chemically modified so that the hydrogen atom of each hydroxyl group is replaced with the hydrazide-reactive group or the aminooxy-reactive group.

7. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 1, wherein the at least one hydroxyl group ~~comprises~~ is a primary C-6 hydroxyl group ~~of~~ contained within the non-uronic acid sugar component of the repeating disaccharide of the glycosaminoglycan.

8. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 1, wherein the hydrazide-reactive group or the aminooxy-reactive group ~~comprises a carboxylic group or the salt or ester thereof.~~ is selected from carboxyl, a carboxylate salt, and a carboxylic acid ester.

9. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 1, wherein the hydrazide-reactive group or the aminooxy-reactive group ~~comprises~~ has the formula -L-CO_2H or ~~the~~ is a salt or ester thereof, wherein L comprises ~~a substituted or unsubstituted hydrocarbyl group, a substituted or unsubstituted heterohydrocarbyl group, a polyalkylene group, a polyether group, a polyamide group, a polyimino group, an aryl group, a polyester, a polythioether group, a polysaccharyl group, or a combination thereof~~ an unsubstituted hydrocarbyl group, an unsubstituted heterohydrocarbyl group, a substituted hydrocarbyl group, and a substituted heterohydrocarbyl group.

10. (Currently amended) The ~~modified glycosaminoglycan~~ modified glycosaminoglycan of claim 9, wherein L comprises a polyalkylene group having the formula $(CH_2)_n$ wherein n is from 1 to 10.

Cancel claims 11-13.

14. (Currently amended) A method for making a ~~modified glycosaminoglycan~~ modified glycosaminoglycan, comprising (a) reacting a glycosaminoglycan with a base to produce

~~deprotonated glycosaminoglycan~~ a deprotonated glycosaminoglycan, and (b) reacting the ~~deprotonated glycosaminoglycan~~ deprotonated glycosaminoglycan with a compound ~~comprising~~ containing at least one hydrazide-reactive group or aminooxy-reactive group.

Cancel claims 15-23.

24. (Currently amended) A ~~modified glycosaminoglycan~~ modified glycosaminoglycan made by the process of claim 14.

25. (Currently amended) The modified glycosaminoglycan of claim 24, comprising two or more hydrazide groups.

Cancel claims 26-44.

45. (Currently amended) ~~A method for making a compound~~ The method of claim 14, further comprising, after step (b), reacting the ~~modified glycosaminoglycan of claims 1-13 and 24~~ modified glycosaminoglycan with a hydrazide compound, to provide a further modified glycosaminoglycan.

46. (Currently amended) ~~A method for making a compound~~ The method of claim 14, further comprising, after step (b), reacting the ~~modified glycosaminoglycan of claims 1-13 and 24~~ modified glycosaminoglycan with an aminooxy ether compound, to provide a further modified glycosaminoglycan.

47. (Currently amended) The ~~compounds~~ further modified glycosaminoglycans produced by the methods of claims 45 or 46.

Cancel claim 48.

49. (Currently amended) The compound of claim ~~48~~231, wherein the macromolecule comprises an oligonucleotide, a nucleic acid or a metabolically stabilized analogue thereof, a polypeptide, a lipid, a glycoprotein, a glycolipid, or a pharmaceutically-acceptable compound.

50. (Currently amended) The compound of claim ~~48~~ 231, wherein the macromolecule comprises a polysaccharide, a protein, or a synthetic polymer.

51. (Currently amended) The compound of claim 50, wherein the macromolecule comprises ~~a polysaccharide, wherein the polysaccharide comprises a sulfated glycosaminoglycan~~ a sulfated glycosaminoglycan.

52. (Currently amended) The compound of claim ~~48~~ 231, wherein the macromolecule comprises chondroitin, chondroitin sulfate, dermatan, dermatan sulfate, heparin, heparan sulfate, alginic acid, pectin, or carboxymethylcellulose.

53. (Currently amended) The compound of claim ~~48~~ 231, wherein the macromolecule comprises hyaluronan.

54. (Currently amended) The compound of claim ~~48~~ 231, wherein Z comprises a polyether.

55. (Currently amended) The compound of claim ~~48~~ 231, wherein R', R^2, R^5, R^6, R^7, and R^8 are hydrogen.

Cancel claims 56-60.

61. A method for producing a ~~compound~~ crosslinked glycosaminoglycan, comprising reacting ~~(1)~~ the compound of ~~claims 25-44 or 47 with (2)~~ claim 25 with a polycarbonyl crosslinker.

Cancel claim 62-198.

199. (Currently amended) A pharmaceutical composition comprising a bioactive agent and ~~the compound or composition in any of claims 1-13, 24-44, 48-60, 62-68,71-82, 84-98, 117-127, or 150-198~~ a modified glycosaminoglycan in which at least one hydroxyl group has been modified so as to replace the hydrogen atom of the group with a hydrazide-reactive group or an aminooxy-reactive group, or a crosslinked such modified glycosaminoglycan

200. (Currently amended) A pharmaceutical composition comprising a living cell and ~~the compound or composition in any of claims 1-13,24-44,48-60,62-68,71-82,84-98, 117-127, or 150-198~~ a modified glycosaminoglycan in which at least one hydroxyl group has been modified so as to replace the hydrogen atom of the group with a hydrazide-reactive group or an aminooxy-reactive group, or a crosslinked such modified glycosaminoglycan.

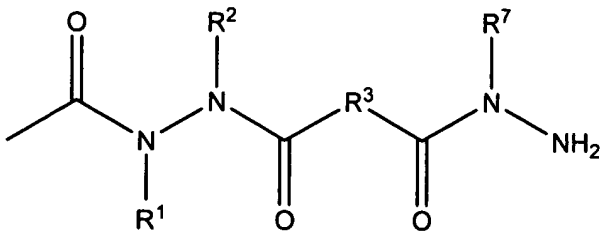
201. (Currently amended) A method for improving wound healing in a subject in need of such improvement, comprising contacting the wound of the subject with ~~the compound or composition in any of claims 1-13,24-44,48-60,62-68,71-82, 84-98, 117-127, or 150-198~~ a modified glycosaminoglycan in which at least one hydroxyl group has been modified so as to replace the hydrogen atom of the group with a hydrazide-reactive group or an aminooxy-reactive group, or a crosslinked such modified glycosaminoglycan.

202. (Currently amended) A method for delivering at least one bioactive agent to a patient in need of such delivery, comprising contacting at least one tissue capable of receiving the bioactive compound with the ~~compound or~~ composition ~~in any of claims 1-13,24-44,48-60,62-68,71-82,84-98, 117-127, or 150-198.~~ of claim 199

203. (Currently amended) A method for delivering living cells to a patient in need of such delivery, comprising contacting at least one tissue capable of receiving the living cells with the ~~compound or composition in any of claims 1-13,24-44,48-60, 62-68, 71-82, 84-98, 117-127, or 150-198~~ composition of claim 200.

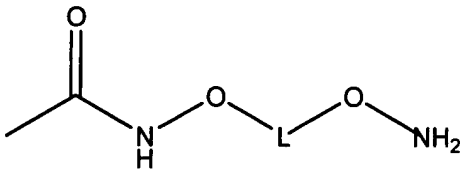
Cancel claims 204-223.

224. (New) The modified glycosaminoglycan of claim 1 or claim 24, containing at least one substituent having the structure of formula (I)

(I) 

wherein R', R^2, and R^7 are independently selected from hydrogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl, and R^3 is selected from hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl.

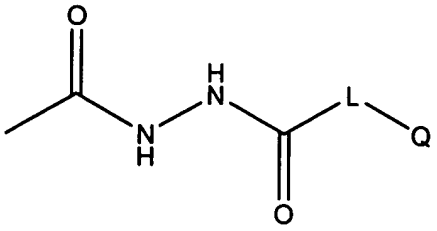
225. (New) The modified glycosaminoglycan of claim 1 or claim 24, containing at least one substituent having the structure of formula (II)

(II) 

wherein L is selected from hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl.

226. (New) The modified glycosaminoglycan of claim 225, wherein L is selected from polyether, polyamide, polyimino, aryl, polyester, polythioether, polysaccharyl, and combinations thereof.

227. (New) The modified glycosaminoglycan of claim 1 or claim 24, containing at least one substituent having the structure of formula (III)

(III) 

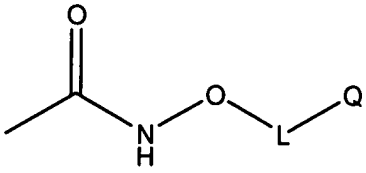
wherein:

L is selected from hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl; and

Q is a bioactive agent, an SH group, or a thiol-reactive electrophilic functional group.

228. (New) The modified glycosaminoglycan of claim 227, wherein L is selected from polyether, polyamide, polyimino, aryl, polyester, polythioether, polysaccharyl, and combinations thereof.

229. (New) The modified glycosaminoglycan of claim 1 or claim 24, containing at least one substituent having the structure of formula (IV)

(IV) 

wherein:

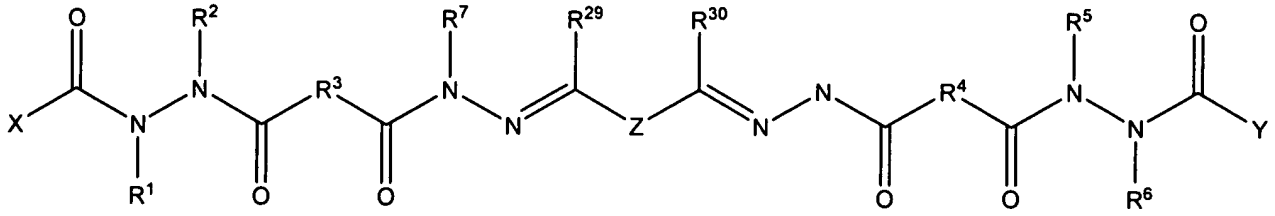
L is selected from hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl; and

Q is a bioactive agent, an aminooxy group, an SH group, or a thiol-reactive electrophilic functional group.

230. (New) The modified glycosaminoglycan of claim 229, wherein L is selected from polyether, polyamide, polyimino, aryl, polyester, polythioether, polysaccharyl, and combinations thereof.

231. (New) A compound having the structure of formula (V)

(V)



wherein:

X is a macromolecule;

Y is a modified glycosaminoglycan in which at least one hydroxyl group has been modified so as to replace the hydrogen atom of the group with a hydrazide-reactive group or an aminooxy-reactive group;

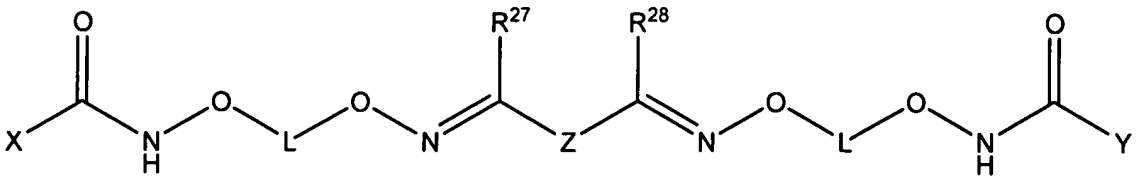
R^{29} and R^{30} are independently selected from hydrogen and lower alkyl;

R^1, R^2, R^5 , R^6, R^7, and R^8 are independently selected from hydrogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl; and

Z, R^3, and R^4 are independently selected from hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl.

232. (New) A compound having the structure of formula (VI)

(VI)



wherein:

X and Y are macromolecules;

R^{27} and R^{28} are independently selected from hydrogen and lower alkyl;

L and Z are independently selected from hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl.

233. (New) The compound of claim 232, wherein L and Z are independently selected from polyether, polyamide, polyimino, aryl, polyester, polythioether, polysaccharyl, and combinations thereof.

234. (New) A compound comprising at least one fragment having the structure Y-S-S-G, wherein Y is a modified glycosaminoglycan in which at least one hydroxyl group has been modified so as to replace the hydrogen atom of the group with a hydrazide-reactive group or an aminooxy-reactive group, and G comprises a residue of a thiolated compound.

235. (New) A compound comprising at least one fragment having the structure Y-(CO)-NH-NH-(CO)-L-S-S-G, wherein:

L is selected from hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl;

Y is a modified glycosaminoglycan in which at least one hydroxyl group has been modified so as to replace the hydrogen atom of the group with a hydrazide-reactive group or an aminooxy-reactive group; and

G comprises a residue of a thiolated compound.

236. (New) The compound of claim 235, wherein L is selected from polyether, polyamide, polyimino, aryl, polyester, polythioether, polysaccharyl, and combinations thereof.